

The global environmental politics and political economy of seafood systems

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Abstract

This paper situates seafood in the larger intersection between global environmental governance and the food system. Drawing inspiration from the food regimes approach, we trace the historical unfolding of the seafood system and its management between the 1930s and the 2010s. In doing so we bridge global environmental politics research that has studied either the politics of fisheries management or seafood sustainability governance, and we bring seafood and the fisheries crisis into food regimes scholarship. Our findings reveal that the seafood system has remained firmly dependent upon the historical institutions of national seafood production systems, and particularly, the state-based regulatory regimes that they promulgated in support of national economic and geopolitical interests. As such, seafood systems contribute to a broader, historicized understanding of the hybrid global environmental governance of food systems in which non-state actors depend heavily upon, and in fact call for the strengthening of, state-based institutions. Our findings reveal that contemporary private ordering of seafood governance solidifies the centrality of state-based institutions in the struggle for ‘sustainable’ seafood and enables the continued expansionary, volume-driven extractivist logics that produced the fisheries crisis in the first place.

Keywords: seafood, fisheries management, global environmental politics, food regimes, food systems, private ordering, state

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Introduction

Since the early twentieth century, interactions between the environmental and food systems governance of ‘seafood’ produced by industrial fisheries – fishing activities undertaken by capital-intensive vessels and gear types that involve a high level of technology and investment and that supply international markets – have shaped and been shaped by socio-economic, technical and environmental change. Yet, the literature on fisheries systems in general, and in global environmental politics (GEP) specifically, is most commonly parsed analytically around *either* (1) the politics of fisheries management *or* (2) efforts to reform seafood value chains towards more ‘sustainable’ practices.

GEP scholars have developed a rich body of literature on international fisheries management. This work often begins with a now-familiar story about a fisheries crisis resulting from poor governance by states, exacerbated by weak property regimes in oceans and historical practices of state subsidies to support fish extraction (World Bank 2009, Barkin and DeSombre 2013). In this context, GEP scholars have explored and explained the vexing challenges of generating inter-state cooperation and institutions to manage fisheries resources that cross national boundaries (Young 1998). Recent work has proposed a *global* fisheries organization that deploys private, transferable quotas to promote ecosystem sustainability (Barkin and DeSombre 2013), scaling up earlier proposals to fix ‘commons’ problems in fisheries through private property rights (Gordon 1954). Related work examines how inter-state power politics and fishing firms’ economic and technical innovations shape fisheries management (Havice and Campling 2010; Webster 2009, 2015).

GEP scholars have also explored ‘sustainable seafood’ as a tool of market-led governance. This *private ordering* is part of a broader proliferation of non-state actors and market-based regulation in environmental governance (Cashore 2002, Dauvergne and Neville 2009). Research has focused on *procedural* dimensions of private ordering, such as how efforts to enhancing sustainability in seafood production strive for legitimacy, authority and credibility (Gulbrandsen 2010, Miller and Bush 2015). Related work has documented that large firms use buyer-power to shape fisheries production and management practices, while improving their environmental reputations

(Gulbrandsen 2010). ‘Sustainable seafood’ eco-labels or green procurement policies are now commonplace in major markets in the US and Northern Europe and in some cases are essential for market access (Foley and Havice 2016; Havice and Campling 2017). Debate remains over what ecological impacts (if any) these forms of private ordering deliver (Ponte 2012), nonetheless, eco-labelling processes have been shown to restructure power relationships and resource access dynamics among firms in seafood value chains (Foley 2012).

Some have analyzed interactions between international fisheries management and seafood systems, and called for more research in a similar vein (Gulbrandsen 2010, Adolf, Bush et al. 2016, XXX). We take up this call to offer two contributions to the study of the global environmental politics of food. First, we bridge and contextualize the historical (and constantly evolving) interplay between varied forms of fisheries management and the globalization of seafood production. Second, we offer an entry point for bringing seafood into scholarship on food regimes and food systems more broadly. Inspired by the food regimes approach, we offer a rough periodization of the development, globalization, and governance of seafood systems, interweaving the ways these dynamics have driven and responded to conditions of ecological ‘crisis’ in fisheries.

Food regimes scholars conduct historical analysis of the political geography of the global food system, and its components (Friedman and McMichael 1989). Conceptually, the approach situates the rise and decline of *national* agricultures in the history of capitalism, enlivening empirical analysis of the production and consumption of food, the politics of food relations, and the role of industrial food production in state building in the modern age (for a review, see: McMichael 2013). Three periods of distinctive food regimes – focusing on terrestrially based food production – have been identified. The British-Centered Regime (1870-1930s) combined colonial tropical imports to Europe with basic grains and livestock imports from settler colonies to provision the emerging European working class and sustain Britain as the ‘workshop of the world’. The US-Centered Regime (1950s-1970s) is typified by broad state support in the form of subsidies and price supported farm programs, which in turn generated surplus food distributed in the form of food aid. These dynamics enabled corporations to establish transnational links between national farm sectors and develop a new international division of labor in agriculture and food processing (Raynolds et al. 1993). The contours of a much-debated third food regime, coined a corporate, or corporate-

environmental food regime (1980s- onward), demarcates an era governed by neoliberal advocacy of market rule in which ‘national’ food production systems mix with international conditions of production and power of multinational corporations that developed under the second regime. By necessity, the third regime addresses the environmental conditions of production and ecological crises; scholars explore firms’ selective efforts to stave off reputational and production risks associated with changing global ecological conditions (Burch and Lawrence 2009; Friedmann 2005; McMichael 2009).

Methodologically, food regime analysis turns attention to the state-market nexus as it develops in space and through time. It begins with the national economy and investigates subsequent reconfigurations of ‘national’ systems of food production, such as the consolidation of corporate agribusiness and big retail, and the significance of ecological crisis and related market volatility in the global environmental politics of food systems (Goodman and Watts 1997, Weis 2007, Bernstein 2015). In this way, it situates food as central to the making and evolution of global political orders, and importantly for our work, it is premised on forms of enclosure of land and resources, and the altered ecological relations that result (McMichael 2013).

Inspired by insights and methods of food regimes analysis, in what follows, we explore how, like agrifood production, industrial seafood developed from models of national production.¹ While our analysis is not comprehensive, we draw out how seafood regimes have a particular temporality and form shaped by, first, the unfolding of fisheries management and the state-property regime in the oceans² and later, the concomitant conditions of human-driven ecological change and decline of fish stocks. In what follows, we conduct a three-part periodization of the interplay of international fisheries management and seafood production systems: (1) we historicize the rise of national seafood production systems from the early 1900s-1960s, (2) we briefly detail the parameters of the globalization of food systems from the 1970s-1990s and the attendant ‘fisheries crisis’ of this time as a segue to, (3) a focused review of two intersecting hybrid, public-private

¹ There has been little attention to seafood in food regimes literature, important exceptions include (Constance and Bonanno 2000; Foley and Mather *Forthcoming*)

² Enclosure of the oceans is central to intersecting dynamics in seafood sectors. Because of space constraints, we draw these out where possible, but have treated this topic more fully in other work, see (Campling and Havice 2014).

seafood governance mechanisms that have emerged since the early 2000s. These three periods do not map neatly with the three agrifood regimes outlined above because of the different characteristics of industrial fisheries and their distinction from agrifood systems (though there are important intersections with aquaculture production, fertilizer and animal feed, which we unfortunately do not have the space to explore here).³ Our analysis links the global environmental politics of international fisheries management with the globalization of industrial seafood production, and we offer it as an invitation for more work in this vein.

Early 1900s-1960s: National Seafood Production Systems and After-the-Fact Environmental Regulation

This section examines the role of state power in the unfolding capitalist appropriation and enclosure of nature in the global ocean. It seeks to explain the industrialization and organization of marine fisheries into *national seafood production systems* driven by capitals and states in competition, and to demonstrate how the intensification of extraction in one place pushed extensification of extraction into other places. We use the term national seafood production systems as a proximate conceptualization of linkages, tensions and competitive contradictions between industrial fishing and processing by leading nations of the time. Our notion of national seafood production systems mirrors the food regime approach in that it captures a historical dynamic (and its contemporary legacies) of competing states seeking to provide systems of provision for cheap food to growing working classes, distant water fisheries acting as a form of ‘soft’ geopolitical influence, and support for ‘home’ capitals-in-competition, including for export-oriented industrialization. Seafood is distinct, however, in that food production is intimately entangled with the management of the resource.

Japan and the US were the two dominant national seafood systems of this era. In the 1930s, Japan’s fishing industry accounted for about 45 percent of the world’s fishing capacity, the US fishing fleet was the second largest, but its catch volume was only 50% of Japan’s (Smil and Kobayashi

³ Aquaculture production, especially from the 1980s onward, has contributed significantly to the growth in volume of seafood produced and traded in international markets, as well as related downward price trends (FAO 2016) and its market dynamics intersect directly with those in wild-caught fisheries (Marks 2012).

2012). As we will show, the competitive interaction between these two fleets and their home states intimately shaped international fisheries management. These states used distant water fishing fleets to establish and extend spheres of maritime influence and to appropriate marine life for processing industries and for fish markets at home and abroad.⁴ We show here that despite the spatial dispersion of their territoriality, these ‘national’ seafood systems were connected by global fishing-processing-market linkages and locked-in by inter-state political mechanisms such as geo-political reach, aid, investment, and trade and industrial policies. The lack of property rights in the oceans eased fleets’ expansion into new waters and enabled new commodity frontiers: boats and boat owners could extract fish throughout the oceans without paying rent or being subject to state regulations.

At the turn of the twentieth century, Japan’s national seafood production system was expanding rapidly. It aimed to feed workers in the rapid process of proletarianization from the Meiji Restoration onwards and to earn foreign exchange with export-oriented fish processing. Competition for profit and government incentives launched in 1898 compelled this industry (Butcher 2004). The national seafood system was an integral part of the expanding Japanese Greater Co-Prosperity Sphere in the Pacific Ocean; what Tsutsui (2013) calls, ‘the pelagic empire’. In the 1910s, the Japanese state first sponsored experimental fishing trips to the south of Japan and quickly sponsored fishing bases in colonial Southeast Asia, initially to supply burgeoning local markets created by mines, plantations and growing cities.⁵ In parallel, the South Pacific Mandate of the Treaty of Versailles gifted Japan colonies in Micronesia where it established several fishing bases by the 1930s (Doulman 1987). Japanese imperialism produced new commodity frontiers in Southeast Asia that were based in part on the appropriation of marine life. By the late 1930s, new technology enabled Japanese vessels to catch fish in Southeast Asian waters and land them in Japan and its colony Taiwan. At this time, Japanese fishing industry employed around 1.5 million people and was active in multiple oceanic regions including US coastal waters (Smil and Kobayashi 2012).

⁴ A similar dynamic was unfolding in parallel in Western Europe’s fisheries, (Campling 2012).

⁵ E.g. migrant Chinese and Indian workers were in need of a stable supply of protein to feed their bodies laboring to extract tin for European factories, producing, among other things, cans for food (Butcher 2004; Ross 2014).

The 1950s saw rapid industrial fisheries development, sparked by military technology developed during the War and closely supported by states and their scientific establishments (Finley 2011). After World War Two, ever-larger boats began to utilize refrigeration and freezing systems – overcoming the limited organic durability of fish that had previously forced fishers to either keep fish in ice, limiting the amount of time spent at sea, or to preserve fish at sea such as through salting. With Japan’s distant water fishing fleet annihilated by the War and the MacArthur Line temporarily blocking its redeployment, the US tuna fleet began to pour into Japan’s former spheres of influence, conducting experimental fishing trips funded in part by the US government. The US used its overseas territories as a base: American Samoa and Puerto Rico were propped up with subsidies, government procurement contracts and import tariffs. In 1953 and 1963 seafood processing firms Van Camp and Starkist respectively established factories in American Samoa creating a steady and increasing demand for American-caught fish, which in turn, spurred the US fishing fleet to expand fishing effort in the Pacific. The US Fish and Wildlife Service developed the Pacific Ocean Fishery Investigation Initiative, which studied tuna schools and supported exploratory fishing missions near American Samoa in the 1950s (McEvoy 1986, Felando 1987). State policy cohered the US national seafood system: trade policies, legal measures and government procurement contracts required processing capital running canneries in the US mainland and overseas territories to buy fish caught by the US fleet (Campling and Havice 2007).

Japan’s post-War national seafood system was also supported by the state but was initially geographically limited by the US occupying authority. The government began to redevelop a national fishing fleet to combat serious domestic food shortages and to restart export-orientated (re-)industrialisation (Barclay and Koh 2008; Bergin and Haward 1996). When the Japan-US Peace Treaty relaxed the MacArthur Line in 1952, Japan’s fleet was rapidly rebuilt and steamed into offshore and distant waters. By 1954 Japan was again active in a considerable swath of its former fishing grounds in the Pacific and Indian Oceans. Formal and informal regulatory mechanisms – such as a longstanding ‘understanding’ between the Japanese government and the distant water fleet owners that catch is landed directly in Japan⁶ – meant that domestic processors depended on supply from returning Japanese distant water fishing vessels.

⁶ In the mid-2000s some larger boats were permitted to export raw material to counter mounting costs (Interviews with industry and government representatives, Tokyo 2006).

Japan supported its export-oriented industrialisation strategy with fish caught in and near other countries' shores and by supplying not only the Japanese market, but exporting catch and processed seafood to US firms and markets. Resulting contestation between Japanese and US interests in salmon and tuna seafood systems illustrates the *international* dimensions of the national seafood system and proved formative in its subsequent management. Salmon and tuna, two large and valuable fisheries, are exemplary of the international contestation between these two leading national seafood systems. American capital set up a sizeable salmon processing industry in the US through the 1800s, building canning plants at the mouths of great rivers along the Pacific coast of North America to process salmon caught on their return from the ocean to spawn (White 1995). Their bodies fed the canneries which in turn provided nutrition to the growing American working class and were exported to Britain to feed workers there too. In the 1930s Japanese fishing vessels began to position offshore in the open access ocean to catch the salmon before they could return into US territory to spawn, threatening the US industry's raw material. The Japanese fishing fleet and US fishing and processing capital were engaged in direct competition for fish in geographic proximity to the US coast.

In the case of tuna fisheries, that animals' highly migratory nature shaped the engagement of the US and Japanese seafood systems. Tuna swim great distances, traversing the seas and the human-drawn borders in them. The US tuna industry traces to early 1900s San Diego when vessels began catching fish relatively close to the US coast. However, by the 1930s, American tuna boats based in San Diego were catching as far as the Galápagos Islands (Soltesz 1991), taking advantage of open access conditions to fish across large geographic ranges without paying fees or undergoing licensing procedures.⁷ Following the War when the ocean-going US fishing fleet was decimated, the US government set up subsidies programs and state-sponsored science oriented to an expansive, extractivist logic that could also support post-war growing labor costs and related industry demand for highly-profitable convenience foods. The rebuilt tuna fishing industry sought new fishing grounds and began to intersect with the Japanese system as fishing grounds and markets began to overlap. For example, from the early 1950s Japan was exporting frozen tuna to

⁷ The shift from icing fish to using frozen brine was a major turning point in extending the commodity frontier as boats could stay at sea for longer, keeping their catch in relative stasis.

canneries in California, and by the 1960s Japanese seafood capital was exporting canned tuna processed in Japan to the US and Western Europe (Ashenden and Kitson 1987).

These intersections presented the post-War US state with a paradox. How could it stop rapidly reindustrializing Japanese fishing capital from fishing for salmon off the US West coast while *simultaneously* supporting the expansion of US fishing fleets into the Pacific Ocean to develop its own ‘pelagic empire’? International fisheries are rarely about fish alone. Instead, US support for the national seafood system was motivated by the *combination* of seafood commodity production – as the US Secretary of the Interior stated in 1947: “‘Tuna is a magic word in any community or country which looks to the sea for food and profits’” (cited by Felando 1987: 96) – and geopolitical influence. At the time, the US government had its gaze on Latin America’s Pacific coast and the Central Pacific Ocean where tuna populations live, and in the latter, where the US Navy was planning post-War bases.

The US state’s strategy to simultaneously establish a national right over ‘its’ salmon populations and support the expansion of its tuna industry into the open oceans and nearing other countries’ coasts fundamentally structured the contemporary global seafood system. In 1945, President Truman famously and *unilaterally* proclaimed US sovereignty over the continental shelf to secure control over access to oil and other mineral resources in the seabed and subsoil.⁸ Less well known, is that a second unilateral proclamation established the United States’ right to establish fishery ‘conservation zones’ in the seas contiguous to the US coasts. The latter specified that the US would exclusively manage American fisheries in this zone in the interests of ‘conservation’.⁹ As coastal and island states around the world were beginning to assert sovereignty over their exclusive economic zones and the principle was being debated at the ongoing UN Convention on the Law of the Sea, the US further elaborated the parameters of the fishery conservation zone to address its interests in highly migratory tuna (in the Magnuson-Stevens Fishery Conservation and Management Act 1976). To protect US distant water tuna fishing activities, the Magnuson Act stated that no coastal state had jurisdiction over highly migratory species because no single state could effectively manage a transboundary resource (U.S. Code, vol 16, sec 1813). The US utilized

⁸ Proclamation 2667 of September 28, 1946.

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its *own* adherence to its national legislation to argue that its fleet could freely move through the Pacific in search of tuna. It argued that coastal and island states did not have sole sovereignty over highly migratory tuna stocks and thus could not exclude US fleets from fishing, require them to follow regulations, or pay access fees (Havice *forthcoming*; Kronmiller 1983).

The Truman Declaration signaled a new dimension of the national seafood production system that differentiates seafood from other food regimes: resource management, which required developing methods for ‘managing’ fisheries resources. The US proposed and promoted ‘maximum sustainable yield’ (MSY) – defined as the maximum extraction of food from the sea on a sustained basis year after year – as the cornerstone of fisheries management. Post-war American fisheries policy, built on the MSY principle, saw humans as playing a positive role in increasing the efficiency and productivity of fish populations, which without human intervention would have ‘wasted’ surplus production. The MSY approach posited that fishing could be sustained at specified levels into perpetuity. MSY became a part of American foreign and domestic policy in 1949 when the State Department formally adopted it as the goal of American fisheries policy. Its principles had already been adopted in international contexts: the 1946 International Whaling Commission Convention promised that scientific management and increased whale harvest would result in an *increase* in the number of whales; MSY also guided US management of Japanese fisheries under American Occupation (Finley 2011). Into the 1950s, American diplomats pushed for MSY and it became the ‘scientific’ basis for many fisheries agreements signed in the formative period of international fisheries management. It was formally recognized as a legal concept during the Law of the Sea negotiations in 1958.

In practice, MSY was a tool to avoid restrictions on fishing unless there was scientific proof that stocks were overfished – proofs that were then (as now) hard to ascertain, not least because of the difficulty of counting fish in the sea or in fishing vessel reports. It thereby provided a basis for the US fleet to expand into waters across the Pacific, despite objections from coastal states around ‘ownership’ of the fish. MSY simultaneously enabled the US to exclude foreign fleets from catching ‘American’ salmon on the basis of conservation: by then, data on stock decline had been collected on this fishery. Archival evidence demonstrates that MSY was established as a quasi-scientific *ex post facto* justification ‘with limited theoretical basis, and no experimental or

observational backing’ (Finley 2011, 93). Yet it remains a foundation of fisheries management, despite early and mounting critique (Larkin 1977) and the empirical failures (Bavington 2010). In short, the US restricted fishing on ‘its’ salmon, but made ownership of tuna ‘no-ones’ property’ (at least until it was extracted by fishing capital). The US coupled the fishery conservation zone and MSY as contradictory mechanisms of inclusion and exclusion that shaped conditions of access and propped up the US national seafood system. It is worth noting that as the US was establishing these regimes to protect its fleets’ access to raw materials, it was promoting liberalization of the trade in goods through the G.A.T.T. and liberalization of global agrifood systems. The legacy of these processes shaped the globalization of national seafood systems, to which we now turn.

The Globalization of Seafood and the ‘Marine Fisheries Crisis’

The fisheries systems outlined above were never truly ‘national’; their territoriality often bled into dependence on catching fish in distant waters and selling finished commodities on international markets. From the 1970s and especially into the 1980s, national seafood production systems became increasingly globalized, mirroring trends in global agrifood systems; despite the simultaneous countervailing tendency of growing state enclosure of the oceans with the creation of 200-mile EEZs and the resources within them. As a brief segue linking the prior section with the following, here we identify some of these dimensions.

International fisheries management of highly migratory species is an important dimension of the globalization era. It required inter-state coordination (if not cooperation) on the governance of resource extraction for many commercially important species both ‘in-zone’ and in the high seas (no-ones’ property). Ultimately mandated for highly migratory species by the 1982 UN Convention on the Law of the Sea, international fisheries management bodies became sites in which multiple states negotiate and express power over resource extraction practices, often in the interest of ‘national’ fleets and (Havice and Campling 2010; Webster 2009). At the same time, distinctly ‘national’ seafood production systems began destabilizing in the context of a wave of corporate mergers and acquisitions among branded food manufacturers and big grocery retail, and the industrialization of parts of East and Southeast Asia in the emerging new international division of labor.

In seafood processing, specialized non-branded processors emerged to supply the growing buying power of big retail and branded capital in Western Europe and North America: some of these (e.g. Philippines and Indonesia) depended on fish supply from their waters, others (e.g. Thailand) secured supply from around the world. Simultaneously, fishing capacity grew rapidly in ways that reflected the changing national seafood system. In the 1970s Japanese trading companies (*sōgō shōsha*) financed the development of South Korean and Taiwanese fishing companies (which also received substantial public supports from their own ‘home’ state) and formed affiliated companies with interlocking business relationships that locked the new industrial distant water fleets into fixed supply contracts. These arrangements secured Japanese clients (and financiers) diversified fish supply (Comitini 1987; Haward and Bergin 2001). This practice provided the finance and marketing networks that made South Korea and Taiwan among the leading industrial fishing fleets in the world, and ultimately, direct competitors with American and Japanese fishing capital, especially in the Pacific Ocean. Lacking domestic consumer markets and export-oriented fish processing, the new industrial fleets provided raw material to emerging non-branded processors in Southeast Asia. Emerging processors proved intense competition for American, Japanese and European branded processors in their own markets, thereby fragmenting ‘national’ seafood systems in favor of a world market for raw material among competing processors, and cheapening fish product prices.¹⁰ The dynamics of appropriation were now reconfigured with a larger number of boats competing to supply a greater diversity of processors, driving greater volumes of resource extraction, and undermining the cost competitiveness of processors in several countries in the global North.

By the 1980s, foreign competition and cross-penetration of capital substantially eroded, or at least muddled the (intersecting) national seafood production systems of the 1950s and 1960s. Significant aspects of the ‘national’ nonetheless remained, for example domestic capital often owned national fleets that were bound by national regulatory practices (e.g. the ‘US fleet’, the ‘Spanish fleet’). Simultaneously however, during the 1970s and 1980s, the practice of ‘flags of convenience’ proliferated. Under this strategy, global capital (vessel owners) register vessels in a country with open registries and light regulatory oversight so as to reduce labor regulation,

¹⁰ For example, imports of canned lightmeat tuna in the USA dropped sharply in price from US\$30.38 per case in 1981 to US\$19.06 in 1985 (Iverson 1987).

maximize post-tax profits and, crucially, to avoid national management constraints on fishing capacity (DeSombre 2006; Campling and Colas 2017). National tendencies and globalizing counter tendencies continued to co-exist in the processing sector – fragmenting simple periodization such as between the ‘national’ and the ‘global’. For example, in 1982 there were 12 tuna canneries on the US mainland; by 1986 there was one. Meanwhile, processing proliferated in lower cost production sites around the world (Floyd 1987). However, to the present day, Spain uses high import tariffs and state subsidies to protect its large fish processing industry (still primarily owned by private Spanish capital) from the international competition that plagued the ‘US’ canneries (Campling 2016).

As seafood production globalized, global fish catch expanded dramatically from roughly 40 million metric tons in the early 1960s to nearly 90 million metric tons by the early 1990s; it has remained largely stagnant since (FAO 2016). The global intensification and extensification of seafood extraction coincided with the globalization of the broader food system forged through parallel and sometimes intersecting processes. These included: scientific developments in production (shipping practices and supply chain management); official development assistance for fishing-related equipment and infrastructure expansion; and, enhanced competition and consolidation in transnational agrifood and retail (Friedman and McMichael 1989, Goodman and Watts 1997, Clapp and Fuchs 2009). Previously national cuisine such as sushi and sashimi became global cultural phenomenon (Bestor 2000).

By the early 2000s, the globalization of fisheries extraction and of seafood trade and consumption was driving dramatic ecological change and resource decline in a wide range of fisheries and ocean ecosystems. Awareness of a ‘fisheries crisis’ emerged in powerful ways. In 1992, the North Atlantic cod fishery – among the most prolific fisheries in history – collapsed and the Canadian government closed the fishery, a stunning outcome for a fishery recognized worldwide as governed by the most advanced and well-funded science-based fisheries management (Bavington 2010). By the early 2000s, the FAO was reporting that 75 percent of all fisheries globally were either fully exploited or overexploited (FAO 2002). Subsequent scientific studies linked ever-expanding fishing capacity and efficiency to declines in fisheries biomass across all ocean basins (e.g. Myers and Worm 2003). They scientifically documented declining fish populations and identified

uncontrolled industrial fishing as the culprit, bringing the ‘fisheries crisis’ into the popular imagination and political debate.

The fisheries crisis, combined with the contours of globalized seafood production, laid the basis for renewed attention and innovation in ‘fisheries governance’, including: ‘good governance’ in fisheries management (World Bank 2004), use of trade tools to promote economic efficiency in fisheries (Campling and Havice 2013), and growing attention to fisheries sustainability by international environmental NGOs (Gruby and Campbell 2013). It also generated new marketing and production configurations relying on non-state tools such as third party eco-certification and supply chain management practices (Jacquet and Pauly 2007). In the following section, we offer a focused review of two intersecting hybrid, public-private seafood governance mechanisms that have emerged since the early 2000s, exploring how they are shaped by and shape globalized seafood production and the historical legacy of the national seafood production systems.¹¹

2000s onward: A corporate-environmental seafood governance regime?

A much debated question in food regimes analysis is the extent to which the second, ‘globalized’ food regime has transitioned into a ‘corporate’ food regime governed by neoliberal advocacy of market rule. In this context, multinational corporations are seen to stabilize and enhance their own accumulation by organizing agri-food supply chains through a range of privately regulated food-quality standards (Friedmann 2005, 254). This process includes playing to differential buyer and consumer expectations for production, and selectively appropriating environmental objectives and demands of environmental movements (McMichael 2013; Cutler 2001). With growing influence and power, multinational corporations have been conceptualized as offering a *substitute* for public authority denuded of power to regulate a global economy, or at least redefined to facilitate neoliberal restructuring in the global food system.

Rather than a binary of (inter)national regulation *or* private ordering, global governance scholarship broadly (Sending and Neumann 2006; The IGLP Law and Global Production Working Group 2016) and in resource sectors including industrial fisheries specifically (Foley 2013; Lister

¹¹ Our argument has some parallels with González-Esteban’s (2018) analysis of the path dependence of international wheat markets – a central pillar of the second food regime – well into the twenty-first century.

2012) has shown that public and private regulation are intertwined and co-constitutive in the ordering of food systems. To reflect on the nature of these relations, we review the public-private interactions associated with two related exertions of private power in international fisheries governance formulated around sustainability claims: the Marine Stewardship Council and the International Seafood Sustainability Foundation. We focus on *how* these mechanisms have gained power in segments of the globalized seafood system by entangling non-state sustainability claims with the legacies of the national seafood systems' fisheries management regimes. We note that our review is selective in nature and while discourses and firm commitments to produce and procure 'sustainable seafood' have proliferated in segments of North American and European markets, they are not ubiquitous and are not central to seafood systems outside of these markets, including the growing dominance of the Chinese fleet, processing and consumer markets.

In 1996, Unilever and the World Wildlife Fund for nature (WWF) announced a joint venture called the Marine Stewardship Council, a standard setting and eco-labeling not-for-profit entity. The founders of the scheme were the world's largest buyer of frozen fish and non-profit conservation organization, each emblematic of growing global power, transnationality and interpenetration of capital in food systems and globally networked environmental movements seeking to correct the resulting ecological problems. WWF's interest in fostering sustainability in global fish stocks is consistent with its conservation mission. For Unilver, the collapse of the Grand Banks cod fishery of Newfoundland in the early 1990s demonstrated how a fishery closure resulting from overexploitation could cut off cheap, plentiful and secure supplies of seafood, threatening profits and long-term financial returns to investors (Foley 2013). To justify the novel project, they cited that state-led fisheries management bodies were complicit in the emergence of the fisheries crisis.

Initial assessments described the MSC as not only a response to state failure, but also an organization that '...privatizes the eco-labeling process within a supranational NGO structure centered on scientific criteria for fisheries management and market based incentives. Through a process of *de facto* de-regulation of nation-State's laws, treaties, and policies regarding fisheries issues, the MSC re-regulates the coordination of the global fisheries away from public venues and into private arenas' (Constance and Bonanno 2000, 135). By this rationale, the MSC was seen as 'a new blend of free-market, science-based, environmentalism' aimed at resolving difficult

fisheries management issues (ibid). Under this new private ordering, global NGOs would provide the organizational oversight and scientific verification that links sustainable production (undertaken by firms in global value chains) to world consumption, coupling these in a system of global socio-technical rationalization. This MSC case is consistent with depictions of a ‘corporate-environmental’ food regime reconfigured by a politics of neoliberalization and market-environmentalism dominated by corporate agribusiness capital, and governed by collaborations between capital and once oppositional environmental movements and associated ideologies of market rule (Friedman 2005).

However, more recent analysis, having the luxury of analyzing more than a decade of MSC certification processes, details the imbrication of state-led structures of fisheries management and private governance initiatives (Gulbrandsen 2014). Science, and the deployment of competing scientific narratives about ‘sustainability’ and the path to achieving it, is a central mechanism of this imbrication. From the beginning, the MSC’s Environmental Standard for Sustainable Fishing – a product of debate among fisheries scientists, academics, industry representatives and government stakeholders – has had three main assessment principles of sustainability: the health of the fish stock, the impacts of the fishery on marine ecosystems and the efficacy of the existing fisheries management system (current guidelines in MSC 2015). Since governments are generally responsible for managing fisheries resources and producing scientific information on the health of stocks and effects of fishing, assessing fisheries for MSC certification requires assessment of government and inter-state management rules, institutions and data (Foley 2013). After an uncertain start, from 2006 on, the MSC certification grew rapidly spurred by retailer commitments to procure MSC-certified seafood products. In 2017, the MSC certified 12 percent of global marine wild catch, twice the figure of 2010 (MSC 2017). Commentators have described the organization as holding a virtual monopoly in establishing widely adopted standards for responsible fisheries management (Ponte 2012). The expansion of this purportedly market-based system relies heavily on state-based management structures to enable firms to make and demonstrate commitments to sustainable seafood.

Growing acceptance of MSC certification has not been in the interest of all private sector actors. While retailers might have made gains in reputation in their supply chains, suppliers have

documented and protested high costs of certification and implementation, disruptions to their market access, and the inaccessibility of the standard, with many seeking alternative mechanisms for demonstrating the sustainability attributes of their products (Christian, Ainley et al. 2013, Foley and Havice 2016). The International Seafood Sustainability Foundation (ISSF) is one such variant of private ordering that emerged in part to protect industry from the impacts of the MSC.¹² In 2009 tuna branded processors developed ISSF in partnership with prominent scientists and with one of MSC's founders – WWF. International fisheries that contribute to the production of canned tuna products are among the largest and most valuable in the world. Additionally, these fisheries' major markets include the US and Western Europe where retailers, under pressure from large eNGOs, are seeking mechanisms to demonstrate their commitment to sustainability. In the US in particular and in some Western European markets, canned tuna is a low price product and consumers are reluctant to pay higher prices, including for products carrying sustainability assurances. As a result, processing and fishing firms have been reluctant to commit to eco-labels in part out of concern that they would absorb production and some reputational costs of certification processes (see Havice and Campling 2017 for a more complete discussion).

A charitable organization, ISSF's stated mission is to undertake 'science-based initiatives for the long-term conservation and sustainable use of tuna stocks, reducing bycatch and promoting ecosystem health' (ISSF 2014). By mid-2015, the commercial members of the ISSF were 19 branded and non-branded manufacturers representing roughly 75 percent of the total global tuna processing capacity.¹³ ISSF members *could* use their collective buying power to directly influence sustainability practices in seafood value chain and have made member commitments for direct action on sustainability, including, for example, agreeing to prohibit transactions with vessels known to carry out shark-finning or with vessels that do not comply with fisheries management regulations. In addition to these direct actions, ISSF generates scientific analyses that it uses to influence existing environmental governance practices. These efforts have focused especially on criticizing state-led fisheries management as well as non-state governance, including the MSC

¹² According to an international fisheries expert with experience in ISSF, ISSF was initially formed directly to counter the threat of MSC certification to private sector interests in the canned tuna sector, though it has since broadened its scope of work and influence significantly, as evidenced by its large body of work and activities. Personal Communication, Feb 8, 2017.

¹³ E-mail communication, ISSF, July 2015.

(ISSF 2013). In engagements with the MSC certification of tuna fisheries, ISSF has developed a strategy for doing both at once.

In 2011, following the usual assessment process, the MSC approved two tuna fisheries for certification: the high volume, large-scale Western and Central Pacific free-school skipjack purse seine fisheries and the New Zealand albacore troll fishery, a much smaller but commercially relevant fishery. In response, ISSF lodged formal objections at the MSC to both certifications on grounds that the state-led regional fisheries management organization regulations overseeing the fisheries were not robust enough to meet requirements for the eco-certification (Jackson 2011). ISSF's claim was based on its internally produced 'Status of the World Fisheries for Tuna' (ISSF Scientific Advisory Committee 2009). ISSF used its MSC objections to focus management efforts and attention on the inter-state system, arguing that it – rather than private certification schemes – is the only regulatory structure with the power and scope to generate lasting fisheries sustainability.

More recently, ISSF drew on its scientific expertise to conduct and release a study analyzing the sustainability of global tuna stocks *against* Marine Stewardship Council criteria (Powers and Medley 2016). The analysis involved scoring stocks in each regional fisheries management organization using MSC criteria (ISSF 2017). ISSF conducts and updated the study for two reasons: first, as a resource for future tuna certifications and/or fisheries improvement projects (FIPs) that many retailers rely upon for sustainable procurement policies *and* second, as a tool to review the strengths and weaknesses of tuna regional fisheries management organizations.

The study evaluated 19 tuna stocks against two of the three MSC criteria: fish stock health and efficacy of the existing fisheries management system. It used MSC's own performance indicators and guidelines for scoring fisheries. The analysis suggested variable health across stocks and some improvement in regional fisheries management organizations' performance. However, it emphasized a particular finding: only six of 19 major commercial tuna stocks would receive a passing score on MSC's criteria. The report thus preemptively deemed the remaining 13 stocks *ineligible* for MSC certification, in many cases because of the lack of well-defined harvest control rules in place at regional fisheries management organizations. The study killed two birds with one science-based ISSF stone: countering the costly threat of MSC certification *and* reiterating its

claim that state-led fisheries management is the appropriate management tool for improving sustainability.

ISSF is a group of leading firms that – usually engaged in intense competition with each other – have collectively created a novel form of private ordering designed to influence environmental governance. It has enabled ISSF members to delay and weigh in on the MSC process that, initiated by retailer demand, would be costly for processing firms (ISSF members) to implement (Freitas 2010). It also enabled ISSF members to divert attention from its members' own high-volume raw material demand and towards inter-state management shortcomings. Notably, inter-state management measures are slow to emerge, and when they do, they apply evenly to all ISSF members and their suppliers. In sum, ISSF uses the combination of private ordering and scientific expertise to simultaneously delegitimize MSC *and* blame the fisheries crisis on the failings of state-led management. As noted above, it is well-established that private ordering works through interactions with the state and state-based management.

Despite being (necessarily) partial, our analysis makes two contributions to understanding the global environmental politics of contemporary seafood systems. First, we situate the rise of private power in fisheries governance in the broader narrative of the seafood regime, demonstrating that it emerges not only through buyer power and market-based incentives for sustainable seafood, but through firms' direct engagement with the historical trajectory of national seafood systems and their state-led governance. The MSC and ISSF fundamentally rely on the long trajectory of the national seafood system, particularly the fisheries management bodies that it yielded, for their own reproduction. This point corroborates, and deepens, understanding of the delicate balancing of distance and proximity that non-state actors play in relation to the state, that has been elaborated elsewhere (Hallström and Boström 2010). Second, we reveal that, as in the era of the MSY-driven national seafood system, in the apparent contemporary shift to non-state, or market-based seafood governance, non-state actors develop and deploy scientific knowledge and narratives in order to legitimize the ongoing expansionary logics of seafood production systems. The MSC seeks to enroll an ever greater volume of seafood production in its certification scheme, while ISSF's tactics are inseparable from the simultaneous dynamics of high volume and low prices coupled with the growing imperative to demonstrate 'sustainability' criteria which are now central to contemporary

seafood production systems. In short, the so-called contemporary corporate-environmental food regime is structured around direct engagement with existing state-led management systems that offer the foundation for extraction. Yet, this private ordering of the seafood system remains strategically silent on the voracious appetite for profit as the primary force structuring the globalized seafood system.

Conclusions

On the whole, global environmental politics research on international fisheries has studied either the politics of fisheries management or seafood sustainability governance. Inspired by food regimes literature, our account of the historical unfolding of the globalized seafood production system from its foundations in nation-state based governance systems offers a bridge between these two research areas. It also brings seafood into food regimes and broader food studies scholarship and, in doing so, highlights dynamics of continuity and change in the politics of environmental governance in food regimes.

Our findings corroborate core dimensions of the food regimes literature. For one, the ‘national seafood system’ was the product of an international system in which states promoted perceived national interests by working through and with a range of international processes (see Bernstein 2015) ranging from domestic industry supports, trade protection and integrating particular scientific models into fisheries management – all of which complement expansionary fisheries aims. The geographical expansion and interactions of distinct national seafood systems required a novel state-centric regime of environmental regulation that took the form of ‘international fisheries management’. By the 1990s, as the contradictions of this ‘national’ project unfolded in the failure of state-centric regulation of fish stocks and the globalization of seafood production systems, non-state actors advanced environmental governance (private ordering) such as eco-labelling and voluntary industry sustainability initiatives, using the globalized food system to govern the environment. The corporate-environmental food regime does not present a moment of privatized governance in seafood systems. It is firmly embedded in, and dependent upon, the historical institutions of national seafood production systems, and particularly, the state-based regulatory regimes that it promulgated in support of national economic and geopolitical interests. As such, seafood systems offer a complex story in which non-state actors depend heavily upon, and in fact

call for the strengthening of, those state-based institutions. This process has had the surprising outcome of developing a private ordering that solidifies the centrality of state-based institutions in struggles over sustainable fisheries management and sustainably branded seafood (though these may not be one and the same).

Most striking is that the volume of extraction remains the core commonality across each of the seafood regimes, and one that is directly or indirectly sustained through state-led governance, private ordering, and their interactions. National seafood systems promoted volume to ensure the reproduction of domestic capital, sustain new industrial societies by providing cheap food for workers and their families, and extended geopolitical influence. Volume also is the basis for the growth imperative central to multinational, private interest groups leading the purported non-state governance of the contemporary era. Our analysis suggests that the volume of extraction – the ultimate harbinger of the fisheries crisis – has and continues to underwrite the logic of the evolving of the seafood system.

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